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EDITORIAL

First of all, may we wish all our readers a very happy Christmas. We have tried to make this December issue less gloomy than it has been in past months. There is no mention of atomic bombs or pestilence and famine. We are sure that everyone will enjoy reading Mr. Vick's inaugural address to the 150th session of the Abernethian Society—not less those who were privileged to hear it in person. His address, combining as it did scholarship and wit, wisdom and charm, was fully worthy of a great occasion and will be enjoyed by Bart.'s men of all ages and in all parts of the world.

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It is not being unduly gloomy to say that since the end of the war our relations with the United States have worsened. Despite the determination of politicians to co-operate and their many glib assertions to that effect, there is widespread suspicion and ill-feeling between the two peoples. To the average uninformed American we are no longer heroic little Britain but a collection of parasites who wish to batten off their wealth. Many of us feel that we stripped ourselves to the bone as the advanced outpost in the fight and are now morally entitled to help from an ally who suffered less. On the other hand, wherever Americans and Englishmen worked together on a common problem in the war, or an English family really got to know an American serviceman, genuine and enduring friendships have resulted. Wherever there has been contact there has been understanding. In the realm of medicine there is mutual respect between the two nations because there has been a constant exchange of information and personalities across the Atlantic. For the last five years a score or so of English medical students have gone to the United States each year to study medicine at American universities; at the expense of the Rockerfeller Trust. They have spent between two and three years there doing clinical work. They have been excellent ambassadors and are convinced, though not entirely uncritical friends of the U.S. Incidentally a contemporary now at Harvard writes that the other day he was asked by one of his colleagues what language was spoken in England. It would be a fine thing if the Nuffield Trist or some similar organisation would finance scholarships in this country for American students, both to reciprocate their hospitality and to further genuine international understanding.

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ELECTION OF NEW DEAN

The College Council at their October meeting elected Dr. Charles Harris to the office of Dean of the Medical College.

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Mr. L. E. McGee has been elected Editor of the JOURNAL.

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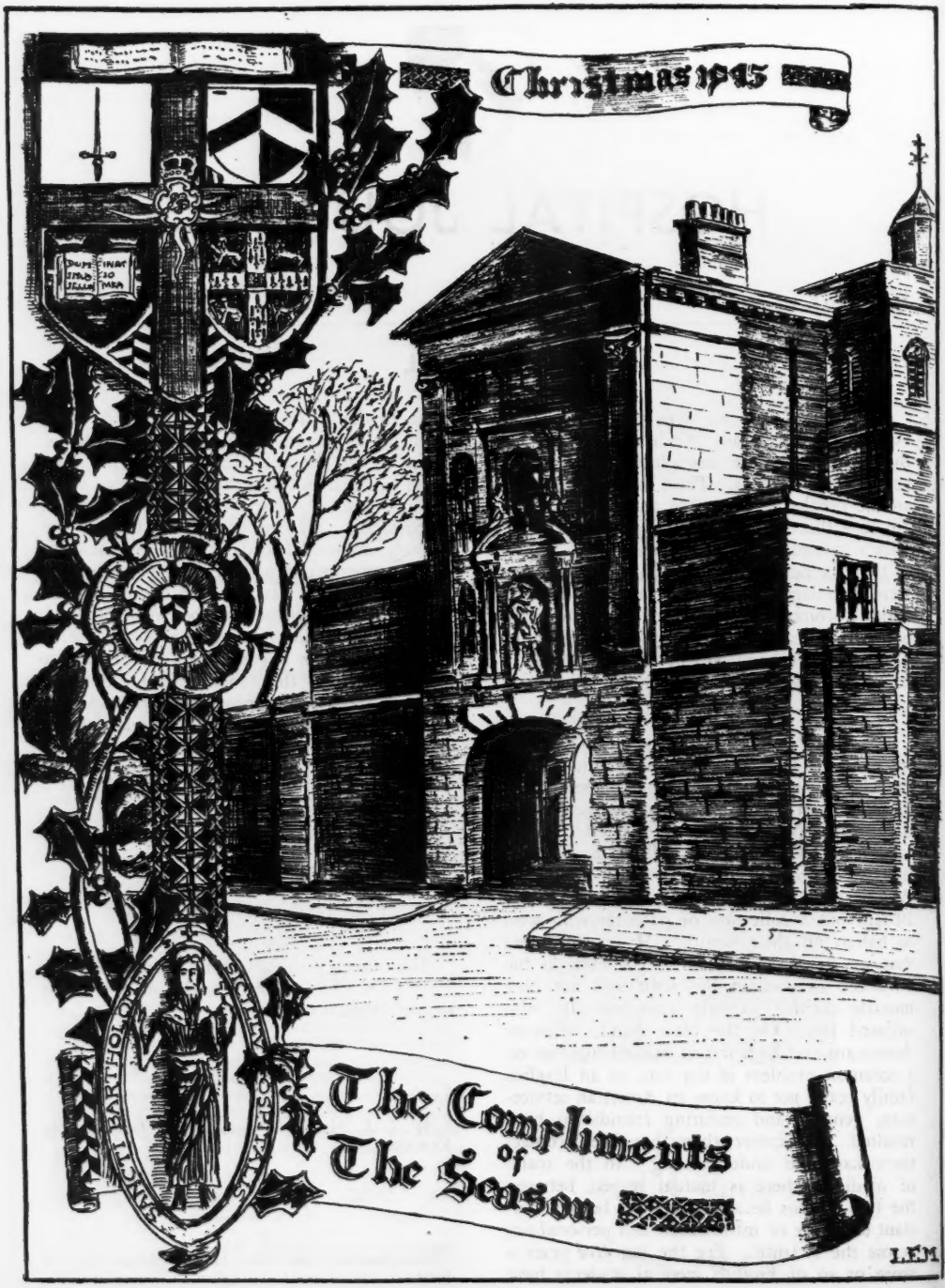
Contributions for the January issue of the JOURNAL *should reach this office by December 13th.*


Christmas 1945
The Compliments of The Season
I.E.M.

ONE ASPECT OF PRISONER OF WAR LIFE

By G. C. H. CHANDLER

During this period, when after the greatest and bloodiest war that mankind has fought, one hears an all sides fresh stories of the horrors of incarceration and of the bestial habits of our vanquished enemies. Despite the united efforts of press, radio and films it is often impossible for the normal human being to imagine—far less to realise— the conditions under which many of our fighting men were forced to exist, for to say that they lived is, I think, a gross exaggeration of the situation. Many of us have seen these men on their return to England and so with a risk of appalling some of my readers, I wish to describe some of the conditions and the diet in one particular camp in Germany.

Stalag 357 was originally situated in Poland, about five miles north of Thorn, beside the main Thorn-Bromberg road. In August, 1944, the entire camp, which consisted of approximately three thousand Army N.C.O.s and three thousand Royal Air Force N.C.O.s, was moved to Fallingbostel, about thirty miles north of Hanover. This new situation of the camp, though pleasant in its surroundings, will be remembered by the nine thousand men who eventually filled it. The actual barracks of the camp were of two different kinds, namely, wooden huts housing about fifteen hundred men and stone blocks which housed the rest of the nine thousand men. The stone blocks were by far the worst and were condemned by both the International Red Cross Representative and the Representative of the Protecting Power. Though they varied slightly in the various compounds they were all of the same fundamental design. The particular kind in one compound, which I will describe in detail, were situated on a clay-like soil which was impossible to drain. The blocks were approximately fifteen yards wide by ninety yards long and were divided internally into eight rooms, each with a door and four small unhinged windows. If any fresh air was required the complete window had to be knocked out of the wall. These rooms which measured approximately thirty-six feet each way, housed anything up to seventy-two men, who lived entirely in the room. The roofs were made of wood with a pretence at rubberoid felting on the outside, but during wet weather they leaked continually and owing to the appalling ventilation of the rooms, moisture always condensed on the inside of the roof and dripped in an unpleasant manner. In the centre of the room six wooden tables made of unplaned deal were provided, together with two very collapsible wooden benches for each table. The beds consisted of double-deckers made of deal, with wooden boards laid across as slats. Under normal conditions paliasses were provided. The lighting consisted of four twenty--five watt bulbs for each barrack room, but owing to the frequent air-raids or to the wires shorting in the dampness of the barracks, we went without light more often than we were allowed to use it.

In January, 1945, the German Authorities decided to turn the camp into a special reprisal camp, with a result that they confiscated all our paliasses, tables, benches and only allowed the water to be turned on during certain hours. In addition we were only allowed to have five bed boards when the normal complement was twelve to fourteen. These conditions wouldn't have been nearly so formidable, even though the Germans only issued two thin blankets to each prisoner, had we been issued with decent rations or if we had been able to get adequate supplies of Red Cross Food Parcels. The Geneva Convention states that prisoners are to be provided with identical rations to the depot based troops of the detaining power. In Germany, however, as with many other vital clauses of the Convention, this was disregarded and prisoners were given non-working civilian rations—the lowest ration scale in Germany. During 1943 and 1944, when Red Cross Food Parcels were reaching the camps, it was quite possible for a man to keep physically fit on the diet, but after September, 1944, the situation rapidly deteriorated, reaching a climax in March, 1945, when the calorific value of the diet was only 1,100-1,200 cals./day. This figure alone accounted to a great extent for the appalling physical condition of many of our P.o.W.s, especially when many of us had to take part in forced marches with no regular supply of food, and having to carry our own kit.

In conclusion I should like to record my appreciation of the work done by the International Red Cross and all the national Red Cross Societies, who gave us such tremendous help, without which we could not have survived.

THE CHANGING FACE OF BARTS

An Address delivered to the Abernethian Society at the opening meeting of the 150th Session of the Society

By REGINALD M. VICK

Mr. President, Ladies and Gentlemen,

When I was invited to deliver the Inaugural address on this most important occasion—the 150th Anniversary of this famous Society—my feelings were mixed—or, in the jargon of the present day, my reactions were diverse.

On the one hand, a keen appreciation of the honour done to me, and, on the other, a not inconsiderable fear that I might not justify your choice.

And when, as was natural, I harked back into the past and found that, at the 100th Anniversary, the Inaugural address was given by no less a person than the great doyen of surgery of those days—that most observant of clinicians and master of English, Sir James Paget—I realised that my best effort could hardly compete with what happened in those far off days.

Sir James Paget's subject was "The advancement of knowledge by the scientific study of disease in medical and surgical practice."

When his address was delivered, Paget was over 80 years of age and was able to recall his first communication to the Society 60 years before. He did not mention, though it is recorded in his Memoirs, which make such excellent reading, that on that occasion he described for the very first time, the Trichona Spiralis encysted in muscle and that he had then only been a student for a few months.

His discourse is printed in full in the Bart.'s Journal of that day. It is very clear and concise and he pleads with his hearers to exercise their powers of observation—to be patient—and to be accurate.

It is interesting to recall that he dealt with the study of diseases and their remedies and that surgery hardly came into it at all.

I would like to quote his final words.

"In all our scientific researches, in all our practice, we need the mind of the detective. I believe we may boast that the writer, by whom the love and power of detection have been described better than any one, Dr. Conan Doyle—is one of our own calling and first studied it when he saw it exercised in practice."

"Well, good detectives are always on the watch; and so should we be; there are facts all round us, why should we leave them to others to discern."

Thus spoke Paget in 1895, at the time when the "Adventures of Sherlock Holmes" were coming out and everybody awaited eagerly the next number of the "Strand Magazine."

I think, that in spite of the spate of detective stories that have flooded over our bookstalls since that day, it is true to say that for dramatic vigour and clear demonstration of reasoning used in detection, no one can hold a candle to Sherlock Holmes. I trust that you will include all his adventures amongst your text books.

In 1896, another notable but very different address was given to the Society by Mr. Howard Marsh—later Professor of Surgery in the Ancient University of Cambridge and Master of Downing College. He dealt at great length with the History of the Abernethian Society since its inception and it appears that, at one time, the Society exercised some of the functions which are carried out by the Students' Union now.

I must just quote one passage from his address, which reveals all sorts of strange things that we know so little of to-day.

"I can remember the time when many a student's life was wretched and led to deplorable results. After a healthy country life among his relations, or at school or at one of the Universities, the student of forty years ago found himself on coming to London, in a miserable position. When his day's work at the Hospital was over, he went, so to say, into outer darkness—his lodgings were dirty, his food badly cooked and there was a complete absence of anything in the way of pleasant surroundings or healthy recreations.

"What followed depended on the temperament of the individual. Many bore the weariness of their sordid life and worked on in dreary discomfort. Others, however, found their relief by casting in their lot with some kindred spirit and thus were formed, as is so often the case among companions in hardship, friendships which neither time nor separation could efface.

"But, in other instances, men threw themselves into all the amusements of the town. Once turned in this direction, they met with ever ready and sympathetic assistance. In the forties and fifties and even somewhat later, there

were at the Hospital men of a very peculiar order now happily extinct. They were students of eight or ten years standing, who had never passed or even presented themselves at a single examination, but they were past masters of music halls and billiard rooms. They walked the Hospital—that is, the Hospital Square—one, or, perhaps, two days a week when they came to look for recruits. Some men obtained from their relations preposterous fees for bogus examinations or for an assortment of surgical instruments. One student obtained from his father Five pounds for the purchase of a Eustachian tube for, as he said, all his colleagues had one."

But Howard Marsh is able to end in a much happier vein. "But the times are changed now and a man after an honest—that is a hard day's work turns to the recreation most to his taste and which our system amply provides and will find, when the years have rolled past, that his Hospital days were the happiest in his life."

As you have heard, at a later meeting of this session, Mr. Geoffrey Keynes is to talk to you of the Great Abernethy, and he is, indeed, much better qualified to do this than I am.

Of your famous Society, I would recall that though it is not *the* earliest, it was one of the very first of Medical Societies. When founded in 1795, it was called the Medical and Philosophical Society. There were six Presidents, a Librarian and a Secretary and a Council. It was, at its inception, that Abernethy was its mainstay.

After his death in 1827, the Society languished until 1832, when it took on a new lease of life "as a Society of the medical pupils of the Hospital to be called the Abernethian Society."

From that time, with one or two gaps—during wars, the Abernethian Society has carried on truly and well. Clinical Meetings have always been a great feature of its activities and it is excellent to think that they are to be revived.

The Society has often been addressed by famous people—members of our own profession and from other walks of life. I can well remember the welcome visit of Mr. George Bernard Shaw—to which he has himself referred in a review of a recent book of medical interest. At that meeting, he launched an attack on the General Medical Council and described our profession as the greatest Trade Union of all time. Mr. E. V. Lucas gave us a most entrancing address on Vermeer of Delft. And Sir Edmund Gosse—one of the greatest literary critics of all time and friend of Robert Louis Stevenson—talked to us of "Doctors of the Seventeenth Century."

And many, many others too numerous to mention. And so we pass down the years and come to 1945 and your 150th Birthday.

I have chosen as the subject of my address "The Changing Face of Bart.'s," and I trust that, from my title, you will have guessed that I wish to speak in a somewhat lighthearted vein.

I am not able to cover the whole fifty years in my own personal experience, but hope that I may be able to give you some sort of picture of Bart.'s during the last forty years—during which I have spent a large part of my working life in the service of the Hospital—except for the years 1914 to 1918.

It has been thought by your Presidents that what I saw may serve as some sort of an introduction to Bart.'s for those many men who, owing to the war, have only recently begun to know the Mother Hospital, most unfortunately having had to work either at Cambridge or at one or other of the Sector Hospitals.

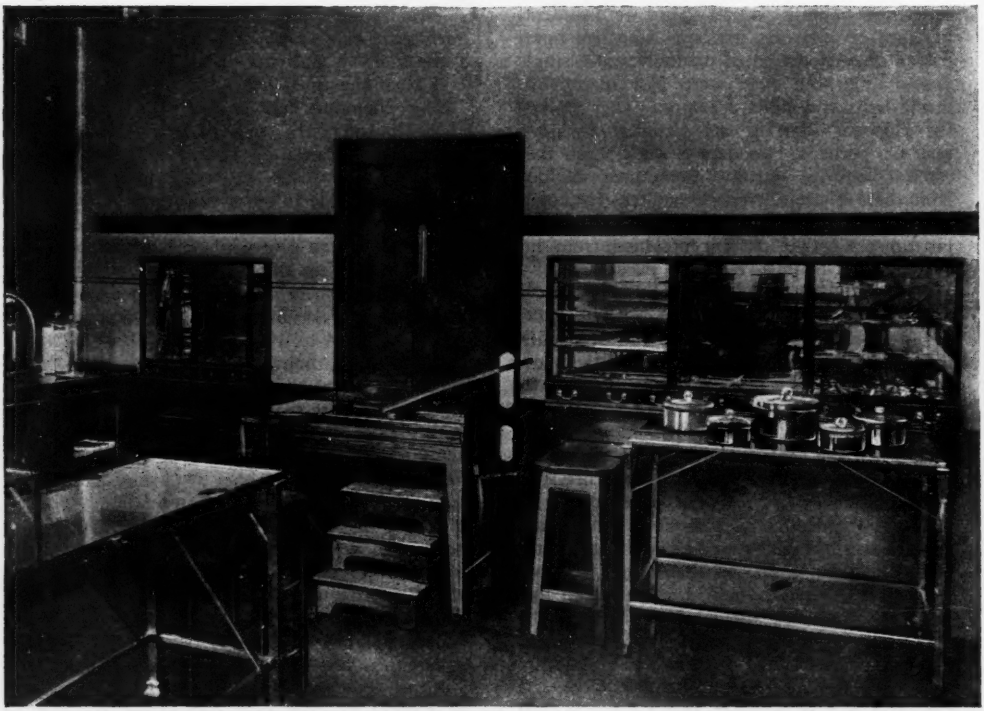
I have noted that, in an earlier address given to this Society, reference has been made to the vast changes which took place in the years 1795 to 1895—but they are as nothing compared to the changes which have taken place in the last fifty years.

So great have been those changes that it is difficult to know where to begin. Perhaps it is natural to start with the actual structural changes and changes in the internal economy of the Hospital.

Forty years ago, the Outpatient Department functioned in the Surgery, which was then situated on the North East corner of the Hospital site, and has now for many years been used as the Nurses' Dining Room. The arrangement was primitive in the extreme. At each end of the Hall was a Duty Room—male and female—and between them a middle room where dressers came to make fomentations and exchange gossip.

Towards the end of the morning, this room was used by the Dental Surgeons for the extraction of teeth and the shrieks of the sufferers rang through the hall. Local anæsthesia was unknown and the administration of "laughing gas" consisted in producing a state of asphxiation up to jactation and was often followed by a rough house when the patient was coming round. As far as my experience went very few of these patients laughed at all, and most of them had an appalling headache afterwards.

The firms on duty occupied the duty rooms and the other firms were accommodated in Boxes on the floor of the surgery. These were merely spaces on the floor of the hall, sur-



Bart's Operating Theatre about 1895

rounded by inadequate screens. Each firm had its own coloured board and we all moved round at the end of each duty period. It is interesting to think that the rooms in the Surgery to-day are still called Boxes.

At the end of the morning the boxes were vacated, one of the benches was moved into the centre and minor operations began.

I would like to remind you that, in these days, the poor of London were not only poor but destitute and had an aroma all their own.

The medical firms occupied rooms on the other side of the Hall, and these in turn were used by the Special Departments in the afternoon.

Specialization was almost unknown. The Eye Department and the Ear Department and the Throat Department existed as separate entities. The Orthopædic Department was run by a General Surgeon—Mr. McAdam Eccles.

It was not until 1908 that the New Surgery, as we know it to-day, or rather did in 1939, threw its doors open to the public.

The Pathological Department occupied two rooms near the Museum. The Post Mortem Room was a small shed near where the Incinerator now stands.

The Resident Staff Quarters were behind the East Wing and were part of the Residential College, which was always full of students.

The Nurses were housed in buildings beyond the Residential College. All these houses were then 200 years old and the rooms were very small and lit by lamps and, later, by a form of gas, which spluttered and hissed in the taps and was so poor a form of illumination that one often wondered whether it was on or off.

In the cellars beneath the College was a strange bath and the mice and rats scampered through them and sometimes ate the gas pipes, when they were particularly hungry.

The catering company had, of course, not been heard of and most of the students fed out—in the various hostelries near the Hospital, at the Express Dairy and at another clean little shop at the corner of Little Britain, whose staple article of diet you may guess when I tell you that it was familiarly known as the Nipple.

Lunch was also served in the College in a hall on "E" staircase and in a room on the site where the Pathological Department now stands called the Inquest Room. I never remember attending an Inquest in the same room.

The East, South and West Wings were the Hospital. The Wards were, according to modern standards, too small and their windows not large enough. But they used to look very comfortable, especially in winter, when huge coal fires burnt in each side.

And now, something about the people who lived their lives in these buildings.

Ward discipline was, I think, stricter than it is to-day and the senior dressers and even some of the housemen were somewhat afraid of the Sisters.

All the Sisters wore frilly caps with bows under the chin and the senior nurses wore strange handkerchief caps—also with bows under the chin. The nurses' skirts were longer and they all wore long capes almost to the ground.

Nurses and students were not supposed to associate with one another and such a thing as a nurses' dance, to which students were invited, was unknown.

The number of students was smaller than it is to-day and there were not more than six dressers or clerks to each firm.

The formal lecture still held its sway and the type of "Question and answer" teaching, which we now know so well in the Practical Surgery and Medicine classes, was just starting.

I think it cannot be denied that this latter form of teaching, now so characteristic of this and many other medical schools, is a great advance on the older type of lecture, though these cannot be done away with altogether.

A considerable amount of coaching went on in the Museum and was a very valuable source of income to badly paid Demonstrators.

The teaching collection had not been thought of and students often wondered in a state of bewilderment around the galleries of the Museum.

In 1909, the Pathological Block was opened and it is amusing to think that there were some quite knowledgeable people who imagined that it was far too large for its purpose.

The practice and teaching of Pathology advanced by leaps and bounds with these greatly increased facilities.

Ward rounds were as much as they are to-day. The custom of allowing students to sit down on a teaching round has been attributed, of late years, to a certain Director of the Medical Professorial Unit but I can well remember that in the firm, in which I was a dresser, we always sat down to be taught.

The operating Theatres were five in number not counting the Outpatient Theatres. Theatre "A" was as lecture Theatre as well as an operating Theatre. And Medical and Surgical consultations were held in the same theatre. In fact, there was once almost a row between the Physicians and Surgeons of the Hospital, because the surgeon on duty was operating in this theatre, when the physicians wanted it for their consultations and the Clerk to the Governors had to be called in to settle matters.

Theatre "B"—apart from the fact that it was filled with all sorts of junk-jorums of lotions, salines, etc.—was thought to be up to date.

Theatres "C" and "D" were small, most inconvenient buildings, on the site where the Deep X-Ray Therapy Department now stands. They were temporary Theatres and only functioned for thirty years.

The Gynæcological Theatre was at the top of the South block and had handsome brown marble walls.

There are still members of the Consulting staff who can remember the surgeons' operating coats, which hung up stiff with blood in a cupboard in Theatre "A," they were discarded frock coats and were used to save the surgeons' clothes when operating.

In 1930, the magnificent New Surgical Block was opened. Its inception and its planning owed a tremendous amount to the energy and drive of Sir Holburt Waring.

In 1938, the New Medical Block was opened and full advantage was taken of the experience gained in the building of the surgical block.

In the planning and arrangement of this block, Dr. George Graham played a large part. The Lucas block became the Gynæcological Wards and housed the Eye Ward as well, and the Etherington Smith Theatre was built.

The other Special Departments were housed in the East and West wings. The Septic Wards —Coborn and Radcliffe—were at the top of the East Wing. And, for many years, on View Day at the Annual Inspection by the Treasurers and Governors, the Treasurer never entered these wards for fear of infection.

And this, we may say, was Bart.'s in 1939. And now let us turn to the Staff.

The Senior Surgeon in 1906 was Mr. Harrison Cripps. He wore a beard and used to drive in to the Square in a carriage and pair.

His clinical lectures were so Elizabethan in character that one had to queue up for them.

Sir Henry Butlin was a consulting Surgeon

and used to ride to the Hospital from Harley Street on a black horse.

One of his great contributions to surgery was his energetic insistence on the enormous importance of early diagnosis and drastic treatment of Carcinoma—as illustrated by Carcinoma of the tongue—in those days a more terrible scourge than it is to-day.

There is a famous story about him which must now be forgotten. He was once going round with about eighteen dressers and showed them a patient with an early carcinoma of the tongue and asked for a diagnosis. The first dresser said he thought that it was innocent—and all the others, as sometimes happens to-day, followed suit. Butlin said, "Gentlemen, you are all wrong—this is a Carcinoma and I am going to remove this patient's tongue to-morrow."

And the patient piped up and said, "Here, I'm not so sure, Guvnor, it's eighteen to one."

I believe I am right in saying that Mr. C. B. Lockwood was the first surgeon to drive into the Square perched high in the back of a car.

No member of the Assistant staff was allowed to drive into the Square. In fact, it was better for him to conceal the fact that he had a car or a practice.

The Assistant Physicians and Surgeons only had beds by the courtesy of their seniors. At one time, no Assistant was allowed to discharge his own patients—that was done for him by his senior. And there is even a story that one Physician would not allow his Assistant any beds at all as he did not consider him fit to look after patients.

The dress of the staff was rigid. Many of the Senior Staff wore frock coats and top hats. The morning coat as we know it—or, rather, don't know it—to-day, was just coming into fashion.

Most members of the Staff, even down to the Junior demonstrators, wore morning coats and gleaming top hats.

My Chief, of revered memory, Sir D'Arcy Power, used to bicycle to the Hospital when on night duty.

The motor car age had begun but hansoms and four wheelers still trundled along the streets. One unforgettable memory was the smell of Little Britain, down which all day and night passed the horse-drawn vans to the Meat Market.

At a somewhat earlier time, the surgeon on duty used to be brought to the Hospital by a Hospital porter, sent for him in a fourwheeler.

(It is interesting to recall that the last of the Box Carriers—the porters who carried the instruments round the wards, when the surgeons actually operated in the wards—only died some time after this last war began.)

Needless to say, all this was changed by the advent of the telephone and the motor car. With the arrival of the car, the days of the top hat were numbered. Of course, this was a great relief, but people did look well turned out in a tail coat and top hat.

And what shall we say of the men themselves?

Bart.'s has had so many famous men on the Staff that it would be impossible to mention most of them.

C. B. Lockwood—the apostle of the aseptic as against the antiseptic technique.

Sir Anthony Bowlby, President of the Royal College of Surgeons—the most sagacious of clinicians—whose wise councils in surgical consultations were of inestimable value to younger generations.

Sir D'Arcy Power, one of the greatest medical historians of all time and author of one of the most readable histories of the Hospital.

Sir Norman Moore, President of the Royal College of Physicians—author of the standard History of the Hospital.

One remark of his well worth handing down to posterity was made when he was in the chair at Saint Bartholomew's Cambridge Graduates' Club dinner—a function we hope to revive next year—and it ran as follows:—

"Etherington Smith and Donaldson must remember that, though we are not Trinity men, we are yet God's creatures."

Sir Wilmot Herringham—a very great orator and the last member of the Staff to wear a beard.

He lectured in what was sometimes called the Oxford manner—and one sentence, oft repeated—I remember well, "You think, in what you are pleased to call your minds."

Sir Archibald Garrod, first Director of the Medical Professorial Unit and, later, Regius Professor of Medicine in the University of Oxford, whose work on the "Inborn Errors of Metabolism" brought about a revolution of ideas on the chemical origin of disease.

I venture now to mention some of the members of the Staff still living. Our first, and at the present moment only member of the House of Peers, Lord Horder, one of our greatest teachers and clinicians and the author of many famous sayings.

And here I would recall one of Dr. Gee's aphorisms—now almost forgotten—"There are only two classes of patients—the ones to whom you give Hst. Gent cum Rheo and the others for whom one can do nothing."

One saying of Horder's that I never tire of

repeating is to this effect, "If a man over 40 complains of indigestion for the first time, you must assume that he has a carcinoma of the stomach, until you have proved that he hasn't."

Sir Walter Langdon Brown—still another Bart.'s Regius Professor of Physic at Cambridge—has very often entertained this Society by his amusing and polished addresses. He has proved again and again that he can talk entertainingly on most things.

But I might go on like this for ever.

Bart.'s has been the home of many famous doctors. The ones I have mentioned are amongst those who have influenced my generation and many others.

I think that the students of those days were more in awe of the Staff than are the students of to-day and that the Staff of that day were more aloof from the students.

Now I am happy to think that—partly as the result of living together more in the war—our relations are more intimate. And, surely, this is as it should be.

(To be continued)

HÆMOLYTIC DISEASE OF THE NEWBORN

A case report with an interesting family incidence.

K. M. BACKHOUSE — G. B. CHAMBERLAIN

On June 7th, 1945, Mrs. S——, aged 34, was admitted to Dartford County Hospital, in the 38th week of her 8th pregnancy, having been sent for investigation by her doctor in view of her previous obstetrical history.

Obstetrical History

With the exception of the sixth child, which was delivered as a healthy male breech, the seven previous pregnancies and deliveries were normal though somewhat precipitate.

1st Child (by first husband). Born March, 1928. Healthy normal male child. No jaundice. It has been found impossible to obtain blood from this child for examination and hence no information is available.

2nd Child (by second husband). B. August, 1930. Male. Jaundiced soon after birth. Died on fourth day.

3rd Child. B. October, 1931. Healthy female child, breast fed, not jaundiced. Blood group—B. Rh + (R_1 r).

4th Child. B. December, 1933. Healthy female child, breast fed, not jaundiced. Blood group—O. Rh + (R_1 r).

5th Child. B. October, 1935. Female child. Jaundiced soon after birth. Died seventeenth day.

6th Child. B. May, 1937 (Breech). Healthy male child. Bottle fed, not jaundiced. Blood group—O. Rh + R_1 r).

7th Child. B. March, 1941. Female child, breast fed, jaundiced soon after birth, very ill for two days, but condition improved following an intramuscular injection of 15ccs. of maternal serum. Survived. Blood group—B. Rh + R_1 r).

No information is available on the blood of the first husband. The second husband, father of the second and subsequent children, was blood group—B. Rh + (R_1 R_1).

Previous Medical History

1924 (aet. 13). Scarlet Fever (no sequelæ), Diphtheria.

1930 (aet. 19). Six weeks after delivery of second child she developed cerebro-spinal meningitis.

1931 (aet. 20). Albuminurea of Pregnancy.

Subsequent to this—good health throughout.

Present Condition

During pregnancy she complained of fainting attacks on three occasions at the 34th week, and was found to have a hæmoglobin of 46 per cent. (Salite) and treated with Iron and Hydrochloric acid.

On admission (38th week) she was found to have a hæmoglobin value of 50 per cent. (Salite—7 gms. per cent.), to be of blood group A and Rh—ve. Anti Rh agglutinins were present in the serum to a titre of 1 in 64. W.R. was negative.

Transfusion with group O., Rh—blood was therefore commenced. After delivery of 350 ccs. the patient complained of retrosternal pain and had a rigor. Transfusion was therefore stopped and the patient rapidly recovered.

Although an explanation of the reaction is not available, it was considered advisable not

to continue with attempts at transfusion but to treat with Iron.

With the exception of the anæmia, the general condition was satisfactory.

As previous labours had been rapid and uncomplicated, with children alive at birth, it was decided to deliver the patient per *vias naturales*. Group O. Rh— blood was made available for transfusion of the infant if necessary.

Infant

During the evening of June 13th a male infant weighing 6lbs. 7½ozs. was delivered. Blue asphyxia was present at birth but disappeared after clearance of the air passages. There was no evidence of jaundice. On examination the following morning the infant was found to be markedly jaundiced with slight hepatomegaly and splenomegaly. The blood was found to be compatible with group O. Rh – blood and had hæmoglobin 130 per cent. Sahli (18.2 gms. per cent) and a Red Cell count of 6.5 million cells/cubic sum.

100 ccs. of group O. Rh – blood were therefore delivered into the left internal saphenous vein above the ankle, over a period of 1½ hours. The blood in this case was given as a prophylaxis against anæmia and so was given according to the generally accepted rate of 10-15 ccs./lb. body weight, rather than the rate recently described by Gimson[1] (1943).

Transfusion recommended if R.B.C. is below 3.5 million cells/cmm. Transfusion estimated upon $\frac{\%\text{ rise in H6 required}}{100} \times$ blood volume. Blood volume × 88 ccm/kilo body weight (40 ccm per lb.) calculated on expected weight for age from birth weight.

On the first day four-hourly feeds of 5 per cent. glucose were given until breast feeding was instituted on the second day. The hæmoglobin level was maintained for two days and then fell to 102 per cent. on the sixth day.

This was accompanied by increasing jaundice, lethargy and bile pigments in the urine. In view of this half-strength Trufood was instituted in place of the breast milk.

Witebsky *et. al.*[2] (1942) have shown that the Rh antibody may be present in breast milk and hence advise avoidance of breast milk in affected children. It appears, however, difficult to appreciate how the antibody can get into the infant circulation.

Following this, there was a slight improvement in the general condition.

The hæmoglobin continued to fall slowly to a figure of 60 per cent. (8.4 gms. per cent.) and 3 million cells/c.m.m.s on the 16th day. The stools were clay coloured and somewhat offensive and the urine still bile stained. The clay-coloured stools, suggesting some obstructive jaundice being present, can only account for part of the jaundice and certainly not for the anæmia, and other symptoms of icterus gravis neonatorum, and is due to the plugging of the bile ducts and damage to liver cells. After this date there was a general improvement and he was discharged at the 8th week in a satisfactory condition. The hæmoglobin was 88 per cent. (12.3 gms. per cent), R.B.C.—5.1 million cells/c.m.m. The jaundice had cleared and the stools were normal, and no bile in the urine.

During the period in hospital the blood picture showed only a few primitive red cells and a slight lencocytosis (22,000 cells/c.m.m. on the 10th day).

In addition to the jaundice and lethargy, there was some spasticity and neck rigidity, with marked irregular occular and limb movements. As jaundice decreased so also did these signs of kernicterus, and on discharge there appeared to be no signs of permanent involvement of the basal nuclei.

Rustin McIntosh[3] (1941) quoted a 10% kernicterus incidence in cases of icterus gravis neonatorum, but Allott considers that this figure is far too high.

Before discharge a further sample of blood was taken and shown to be group O. Rh + (R_1r).

It can be stated, therefore, that this was a moderately severe case of icterus gravis neonatorum and that on the evidence available it is reasonable to assume that the previous affected children were also affected by this disease.

Discussion

Hæmolytic disease of the newborn is found in one of four forms—Icterus Gravis Neonatorum, Anæmia Hæmolytica Neonatorum, Macerated still born fœtus with a damaged fibrosed liver, and Hydrops fœtalis (with lipoid infiltration of the suprarenal cortex). In a survey of the ratio of the various forms Henderson (1942)[4] gave a figure of fifty cases of Icterus Gravis to eight of each of the other three forms.

Deinst (1905) first noted that when the mother's serum contained an agglutinin that was incompatible with the infant's erythrocytes the potency of her iso-igglutinins increased considerably during the fourth to eighth day after delivery.

Levine and Stetson (1939)[5] first suggested that the presence of atypical agglutinins in the serum of a recently delivered woman might be the result of immunization to an antigen in the fœtus. They later showed that their cases were due to the Rh factor.

The Rh factor, found in the erythrocytes, was first discovered by testing samples with anti-rhesus sera, prepared by injecting the blood of rhesus monkeys into rabbits. That the blood

group antigen responsible for the disease is usually the Rh factor was shown by Landsteiner and Weiner (1940 and 41).[6] Race and Taylor showed that the distribution of the factor in a total series of 4,618 subjects was 84.37 per cent. Rh+ and 15.63 per cent. Rh−. Landsteiner and Weiner showed that there are marked racial differences in distribution. The Rh+ figure is much higher in leucodermes and melanodermes than in xanthodermes, and they found only one Rh− in 120 Red Indians. There is no variation in the sexes and it is independent of other groups. The prognosis is more grave, however, for affected male children.

Ninety per cent. of mothers of erythroblastosis cases are Rh− and the others appear to have some antibodies to A, B, O, M. N, and P agglutitins. So far (1944) ten anti M and one anti N cases are reported. A number are reported in which the mother is Rh+ and the infant either Rh+ or Rh−. Some of these may be misdiagnosis of such conditions as acholuric jaundice in Rh+ mothers. There are, however, at least seven Rh genes, with twenty-eight possible genotrypes (Rase *et al.* 1944)[7] so that in order to produce antibodies the mother need not be Rh−.

That the combination of an Rh− mother with an Rh+ fœtus does not necessarily lead to the disease is shown by the fact that this combination is present in 9.46 per cent. of pregnancies (Haldane) but hæmolytic disease occurs in only 0.25 per cent. It is therefore necessary to consider some explanation for this low incidence. The occurrence of an immunizing pregnancy in which the disease is not manifest in the fœtus will account for a number of these cases.

It must be pointed out that if the immunizing factor Rh, A, B, M, N, or P, is present only in the erythrocytes, it is necessary to assume the actual entry of fœtal erythrocytes into the maternal circulation for immunisation to occur. Levine and Katzin (1941)[8] made tests with numerous specimens of saliva, a few tests with sperm cells and seminal fluid which indicated that the Rh factor is not present.

Boorman and Dodd (1943),[9] however, have shown that the Rh factor is present in body fluids and the cells of a number of tissues, though in much smaller amounts than in the blood cells.

With antibodies present in the maternal circulation with an Rh+ fœtus the effect is probably in relation to—

1. Ability of mother to produce antibodies.
2. Titre of agglutinins in the mother's serum.
3. Permeability of the placenta.
4. Amount of extra-corpuscular group specific antigen present.

There appears to be very little relationship between the titre of antibody in the mother's serum and the severity of the disease in the fœtus. It is not usually possible to forecast the condition of fœtal disease in utero by estimation of maternal serum antibody, as the antibody in the maternal circulation may be due to a previous pregnancy or other immunising cause (for example, incompatible blood transfusion). What appears much more important, however, is the fact that late in pregnancy there may be a tendency for antibodies to go out of the maternal blood stream, suggesting that the fœtus absorbs them and hence is a bad prognostic sign.

It is generally agreed that the low incidence of A and B hæmolysis is due to the absorption of maternal antibodies by the A and B group specific substances in the fœtal tissues and body fluids before they can affect the red blood cells. Boorman and Dodds (1943) have shown that the quantitative distribution of Rh group specific substance is similar to those for A and B groups but whereas the latter substances in the tissues are readily soluble in secretors (water soluble), the Rh substances are not usually water soluble. Some cases of Rh+ individuals, however, carry very small amounts in the saliva and other fluids, suggesting that some slight amount is soluble in these cases. It is therefore possible that only males who secrete Rh antigen in the saliva have the antigen in a water soluble form which allows it to pass easily through the animal membranes.

Hence a fœtus which carries on Rh genotype which results in its developing Rh antigen in this form so that it can pass easily into the mother's circulation via the placenta, will be affected. This theory will discount the necessity for the passage of red cells from fœtus to mother, which had to be assumed previously.

Whatever factors are considered to explain the unusual incidence in this family, it does not appear possible to consider it in the light of different Rh genotypes. All the children who are living, including those affected by the disease, carry some genotypes which are exactly as would be expected by the simple mendelian rules of inheritance. It would be reasonable to assume, therefore, that the two children that died of the disease were also of this genotype. Since the degree and genotype of the antigen would appear uniform it is hardly possible to consider a variable response in the mother in the production of antibodies, and similarly the variable permeability of the placenta could not be invoked as an explanation.

There is no doubt that a much larger percentage of affected male children die of the disease than of female, but in this family of the four affected children (two of each sex), one of each sex died. There is, however, no apparent variability in the actual incidence of affection between the sexes and so that also can be discounted.

It would appear possible that the earlier children could have been affected by immunization to other groups, leaving only the last children to be affected by the Rh group antigens. This can also be discounted in the light of subsequent response to these groups in the later children.

No satisfactory explanation of this peculiar behaviour can be put forward. All that can be said in the light of present knowledge, is that even when the mother has already been immunized and the genotype of the child is such as to be agglutinated by her antibody, some other factor, as yet not known, is involved which very occasionally gives this type of result. It is, however, of such rarity (two other series are recorded by the Galton Serum Unit (Mourant) that from a prognostic approach this effect can be neglected.

Summary

A family history is recorded of a standard genotype being carried by all the eight children but a marked variability in antibody response being shown by the infants.

The obstetric history and mode of treatment of the last (affected) child is given.

A revue of the pertinent points in the literature of erythroblastosis fœtalis is made but no explanation of the phenomena in this series can be given.

We would like to express our thanks to the Kent County Council and Dr. T. S. Cochrane for permission to publish this case; to Dr. F. Bachner and Miss M. V. Gantry for much assistance in collecting clinical material; to Dr. E. N. Allott for permission to publish his pathological reports and for technical assistance, and to Dr. A. E. Mourant of the Galton Serum Unit, Cambridge.

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CORRESPONDENCE

THE MARRIED EX-SERVICEMAN

To the Editor, St. Batholomew's Hospital Journal.

Dear Mr. Editor,

Captain Cooper, whose letter was published in your November number, and other serving Bart.'s men will, I feel sure, be interested to know that plans are being made under the scheme for "Post-Graduate Education of Medical Officers on release from the Forces." Up to date 18 Supernumerary Chief Assistant appointments embracing Medicine, Surgery and Special Subjects have been made by this Medical College *in addition* to the "routine" ones; these supernumerary appointments are reserved for Service Medical Officers on release, are in general for six months and with a salary at the rate of £450 to £650 per annum (including allowances if non-resident) depending on experience, etc. In addition, similar appointments are available in non-teaching voluntary hospitals to suit individual requirements; parallel with these are Refresher Courses carrying with them financial assistance by certain allowances.

Captain Cooper mentions the example of men who were mobilised after only a brief period of House job; he and his brother medical officers may rest assured that this group stand high in eligibility under the scheme, indeed, other things being equal, their chances of a supernumerary appointment are greater than the man who was fortunate enough to do B2 and B1 appointments before being called up.

May I use your journal as a means of bringing this scheme to notice and to ask that any Bart.'s man wanting one of these "jobs" either at Bart.'s or in the other hospitals has only to write to this

Medical College as soon as possible or, in the case of the higher age release groups, at least three months before his release date; all further action will then be taken by the College to help these returning Medical Officers in getting the new start in civil life which they certainly deserve.

Yours sincerely,

A. E. UNDERWOOD,
Sub-Dean of the Medical College.

17th November, 1945.

The Students' Union Ball will be held on Friday, January 25th, 1946, at the Grosvenor House. Double Tickets, at 27/6, may be obtained from G. Parker Bradfield, The Students' Union, St. Bartholomew's Hospital, E.C.1. Applications, written or *viva voce*, should be accompanied by the requisite sum of money. Cheques should be made payable to the Students' Union and crossed.

SOCCER

Bart.'s v. Mayfield Athletic Club, October 20th. Home. Won 6—4.

Team: Watson; Pine, Elliott; Amos, McClusky, Winstone; Pilling, Blackman, Thomas, Mangan, Burns.

Mayfield pressed at first and we were lucky to prevent them scoring, but after ten minutes the game swung the other way, and Thomas, seizing on a through pass, beat the goalkeeper easily. Bart.'s continued to press and three quick goals followed—Blackman and Burns (2). Mayfield, however, quickly recovered and scored their first goal.

Bart.'s scored first after half-time through Pilling, but Mayfield had the better of the second half, our big lead seeming only to spur them on. Our defence was continually pressed and Pine did well to keep their dangerous left wing in check. We scored once more through Thomas, but Mayfield added 3 goals to their score before full time.

Bart.'s v. St. Thomas' Hospital, October 27th. Home. Won 7—0.

Team: Watson; Pine, Elliott; Amos, Murley, Mangan; Jordan, Thomas, Mangan, Burns.

This was a one-sided game, we scored 3 goals in the first half, and in the second settled down to demonstrate to ourselves and our opponents that short passes, anticipation and quick shooting, good football in fact, are more effective than just sheer determination to get the ball into the net, and in doing so added 4 goals to our score.

Goals: Burns (3), McClusky (3), Thomas (1).

Bart.'s v. Imperial College, November 3rd. Home. Won 5—2.

Team: Watson; Pine, Elliott; Amos, Murley, Mangan; Jordan, Blackman, Thomas, McClusky, Burns.

We were lucky not to have had a goal scored against us in the first five minutes, an opposing forward hitting the crossbar, but we soon settled down, and after Burns had hit the upright, McClusky scored with a neat header from a centre by Thomas. A second goal came quickly when Thomas followed up a shot and headed past the goalkeeper, and a third was scored by Jordan, who made a sensational appearance from the wing which completely nonplussed the goalkeeper. Burns then put across a long-low dangerous centre, and Thomas put the finishing touch, for our fourth goal.

The second half was rather lifeless. McClusky scored for us, and Imperial scored twice while we were resting on our laurels, amidst the gathering gloom.

Bart.'s v. Borough Road College, November 7th. Home. Won 6—.3

Team: Watson; Pine, Elliott; Amos, Mangan, Weston; Pilling, Kirby, Goodrich, McClusky, Burns.

This game was a sweet revenge for a long series of defeats. It was particularly creditable as we had nothing like our full team out. We soon established a strong lead by scoring 4 goals in ten minutes—Burns, McClusky (2), and Goodrich. This spectacular start shook our opponents considerably, and they took a time to recover, but they scored a goal before half-time.

They started the second half by attacking strongly, and quickly scored; however, a determined dash and a skilful centre by Pilling enable Kirby to re-establish our lead. This caused Borough Road to withdraw their dangerous centre-forward into the defence, and after this, although our goal was in peril once or twice, the result was never in doubt. Burns scored our sixth goal after dribbling past five men. The defence played well together, Mangan doing well at centre-half and McClusky and Burns did splendid work in the forward line.

St. Mary's College v. Bart.'s, October 17th. Away. Lost 3—1.

This being our first Wednesday game, it was not surprising that our team was not completed until the last moment. However, the spirit of the soccer team prevailed and our absent members managed to board the moving train at Waterloo.

The game itself was keenly contested, but owing to the pressure of examinations and the pressure of our opponents' forwards it was apparent that the game would not go as we wished. Mary's scored after ten minutes' play through their inside-left and the failure of our defence to mark their opposite numbers. We, however, retaliated and after a scrummage in the goal mouth Burns shot hard into the far corner of the goal. Mary's scored again before the end of the first half, and this score remained until the middle of the second half when they added a third goal.

The Bart.'s team is to be congratulated on its spirited play, especially the hard tackling of the defence, and although our captain lost one of his boots during the game it did not interfere with his later play. The motto of the game was: Hard tackling is essential, but to win accurate marking is essential.

Team: Watson; Pine, Elliott; Winstone, McClusky, Amos; Burns, Mangan, Thomas, Goodrich, Pilling.

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EXAMINATION RESULTS

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FINAL EXAMINATION, OCTOBER 1945

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Wince, W. H. D.	Mann, F. M.	Thompson, J. M.	Jordan, J. W.
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Heneghan, N. D. H.	Harrison, J. A. B.	Ballantine, R. I. W.	Jackson, I.
Peck, I. A. W.	Millichap, J. G.	Bond, G. E.	Wand-Tetley, J. I.
Osborne, P. F.	Rimmington, K. E.	Krister, S. J.	Hopper, P. K.
Jordan, J. W.	Hopwood, G. M.	Brooks, D. Hall	
Fyfe, A. E.	Dawson, D. A.		

The following students have completed the examinations for the Diplomas M.R.C.S., L.R.C.P.:

Allison, R. C.	Davies, N. N.	Dawson, D. A.	Dunlop, E. M. C.
Ellis, E.	Fyfe, A. E.	Ellis, R. H.	Grant, M.
Jackman, C. C.	Kunkler, P. B.	Juckes, W. R.	McGregor, R. C.
McMillan, J.	Moore, W. T. S.	Marett, J. E.	Rimmington, K. E.
Robinson, J. O.	Seed, S.	Rosenberg, H. N.	Strangeways, W. M. B.
Taylor, T.	Walsh, R. J.	Thompson, J. M.	Wince, W. H. D.